

Full Length Research Paper

The effect of enriched creative activities program supported with Aytürk technique on creativity level in music courses

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The aim of this study is to reveal a new and unique technique that can be used in music lessons and other courses and to determine the impact of the Enriched Creative Activities Program with the Aytürk Technique, which was developed by Ertürkler, on the creative thinking abilities of students. The study was designed according to a pretest-posttest experimental model with a control group. In the spring semester of the 2017-2018 academic year, two of the fourth-year classes of Hasan Akan Primary School were randomly selected as study groups. The two classes were assigned as an experimental group and a control group. As a measuring tool, Raudsepp (1983)'s "How creative are you?" creativity test was used. While the control group continued with their ordinary music lessons and school education, the experimental group students were supported with the Aytürk Technique and Enriched Creative Activities Program in addition to the music lessons they attended at the school. In this context, in addition to the use of teaching methods and techniques in the literature, a new technique, which is not included in the current literature, was implemented in the learning process. It was aimed to have a participatory, creative and interactive educational environment in the activities applied to the experimental group and to give students the opportunity to imagine, create, and to express themselves. The Rhythmic Table, on which the technique is based, was used in each activity and rhythmic products or musical products were obtained. The students produced creative ideas for the intended objectives during the study and created permanent products related to the subject by using the new technique. At the end of the activity, the activities were exhibited by the students. At the end of the 10-week experiment, the experimental group students were observed to be more successful compared to the control group students.

Key words: Creativity, music education, drama, new approaches in music education, new education techniques.

INTRODUCTION

A teaching method is the way of taking students to a specific goal. This method is intended to organize and conduct teacher-student activities using certain teaching

techniques and tools. Technique is the method of executing the teaching method. It is the implementation of the method and the entirety of studies in the class

(Sünbül, 2001).

Teaching technique is a skill, process or application selected to improve the effectiveness of teaching. In other words, it can be said that teaching method is the process pattern or plan to reach goals, and teaching technique is the method of putting patterned or planned ideas into practice. The leading teaching techniques discussed in the literature are as follows (Arslan, 2016: 96):

1. Group teaching techniques: Brainstorming, Idea Production, Six Thinking Hats, Roleplaying, Drama, Question-Answer, Show, Micro Teaching, Analogy, Educational Games, Experiment-Laboratory, Station, Talking Circle, Fishbone, Cognitive Apprenticeship, Socratic Seminar, Socratic Debate.
2. Individual teaching techniques: Programmed Teaching, Peer Teaching, Computer Aided Education, Personalized Instruction (the Keller Plan), Tutoring.
3. Non-classroom teaching techniques: Field Trips, Museum Teaching, Observation, Interview, Homework, Exhibition.
4. Active teaching techniques: Ranking Ladder, Snowball, Letter-Telegram Game, Ball Bearing, Cornering, Poem Writing, Aquarium (Inner Circle), Showing Cards, Philips 66, Gossiping, Round of Questions, Right or Wrong?, Marketplace, Gallery Walk (Board Technique), Information-Learning Eagerness Cards, Picture Prompt, Jigsaw, Acrostics, We Are All Teachers Here, Mind Mapping.

A few significant techniques with similarities to the Aytürk Technique in terms of research method are explained as follows:

The brainstorming method, intended to improve the productivity of group members in organizations, was developed by Osborn (1957) (Coşkun, 2005: 79). This technique is used as a group session to find multiple solutions to a problem for evaluation and development. In other words, a brainstorm is when a group thinks creatively to create ideas. Suggestions of each member of the group help others draw associations, increasing the number of ideas, and a wide range of suggestions are produced (Kaptan and Kuşakçı, 2002). The goal is to generate ideas and options for a certain situation or problem. A liberal technique, it does not involve any limitations. It is based on associations. Each expression triggers new ones in others (Arslan, 2016: 98). There are no evaluations between associations in its implementation.

In the teaching method named Mind Mapping, each of the important concepts or ideas on a subject is written

separately. Then, each student is asked to position the concepts or ideas according to their relationships. Students can use this exercise individually or as a group. The maps they obtain are presented and explained at the class. Many meaningful relationships are discovered between what has been learned in this exercise (Arslan, 2016: 140). Mind maps were designed as a quick technique of taking notes. Complex and forgettable information is arranged in a simpler and more systematic way with the notes, which consist of main concepts and images. The technique improves thinking and creativity by developing classification and categorization skills (Aktaş, 2012: 20; Arslan, 2016: 140).

In the Educational Game technique, educational games are designed with their playfields, the number of players, player levels, play and replay time as well as instruments and tools to be used in the game for educational purposes (Özen et al., 2018: 5). It is similar to the Aytürk Technique as it is used to reinforce the subjects discussed during the teaching-learning process in a more relaxed and fun environment. The games are pleasant and fun activities that improve artistic and aesthetic skills and they involve competitions among students in achieving their learning objectives. The Aytürk Technique essentially repeats and consolidates information in order to make course subjects more interesting and incorporate students who exhibit little or no participation in class. It develops fun, artistic and aesthetic skills. The games are actively used during the preschool and early elementary period, which is also called the play age. The Aytürk Technique primarily addresses preschool and elementary school students.

Learning through games is an activity outside the conventional classroom atmosphere. Educational games are used to make the course subject more interesting, activate the students and help them learn in a relaxed environment while they have fun (Arslan, 2016: 116). The Aytürk Technique can be used in or outside classrooms. It activates students through fun. Educational games are aimed at Repetition, Consolidation and Support. These activities are based on rules. The Aytürk Technique serves the same purposes and has rules.

The Gallery Walk (Board Technique) is an active learning technique that helps students evaluate what they have learned in a certain period of time. The process implemented in the Aytürk Technique is similar to the Gallery Walk in the following ways: in both techniques, students are divided into groups of 3 to 5, where they list the information, skills, development and interest they have in the subject. In the Aytürk Technique, each student or group writes a rhyme based on the list they have

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prepared (Arslan, 2016: 139).

In the Aytürk Technique, concepts or ideas generated in the Mind Mapping Technique are arranged in a fun way. A rhythmic table is used in practice to make the information permanent in mind.

The Aytürk Technique, developed by Ertürkler, is an original technique. It was used in music lessons as part of the study; however, it can be implemented in several other disciplines. The technique is based on entertaining activity principles such as discovering the students' interest, arousing their curiosity, making the information more interesting, employing information technologies, using images and puzzles, explaining the usability of the subject, and introducing different perspectives. Based on a rhythmic table pattern, the technique draws upon brainstorming, mind mapping, educational games, and gallery walk (board) techniques.

Advantages:

1. It develops body language.
2. It creates a fun, cheerful and relaxed learning environment.
3. Communication is based on words, rhythm, music or movement.
4. Subjects are made more interesting with games.
5. Students learn to obey rules.
6. Students are more motivated to learn.
7. Students are prepared for real situations they will encounter.
8. It helps students socialize.
9. It contributes to the cognitive, sensory and psychomotor development of students.
10. Students consolidate the information they learn in class.
11. Students gain more experience from the actions they personally participate in and like.
12. Students get the chance to explain their feelings and attitudes.
13. It develops creative attitudes and behavior of students.
14. It allows students to feel the situation instead of just comprehending it.
15. It saves classwork from monotony.
16. It is beneficial to the development of social skills.

Limitations:

1. Allocated time may not be long enough.
2. Some students may have difficulty in ordering concepts, characters or events.
3. It may not be a good method for students who lack certain skills, such as shy students or those with speech disorders.
4. The method may be useless when it is not associated with the course.

5. It requires group work.

6. It does not serve its purpose when it is not understood well.

7. It is difficult to use in crowded classes.

8. It requires some creativity from each participating student.

9. Goals may not be achieved if the teacher lacks class management skills.

10. Talented students may monopolize.

11. It is not effective in solving difficult and complicated subjects.

12. It wanders away from the educational process in the presence of circumstances like contests and competitive feelings, or winners and losers.

Creativity

The concept of creativity is called "kreativitaet, creativity" in western languages. It was derived from the Latin word "creare", which means "to bring about, create, produce" (San, 1985).

The concept of creativity is regarded as one of the most difficult qualities to define as it involves multiple attributes and a large scale. Creativity is a characteristic that is associated with concepts like magic, genius, gift etc., which are attractive to individuals (Samurçay, 1983).

Until the early 20th century, creativity was believed to be an inborn quality. However, the opinion that creativity is a supportable and improvable quality has gained acceptance in recent years (Bayraktar et al., 2012: 1). Creativity or creative thinking is not specific to scientists and artists. We all develop creative ideas at various levels. We use our creative skills in our day-to-day lives to solve our daily problems.

Creativity today is a prominent concept because there exists a balance between transience and creativity on one hand and permanence and routine on the other (Morley and Silver, 2000: 90). In other words, creativity determines the difference between convention and innovation, and whether an idea or product will become permanent.

It is difficult to find an area of research more important than creativity among the research areas of psychology at present. This is because we can use tools that make people's lives easier, such as cars, trains and planes as means of transport, and we like the finer aspects of life like music and arts. If we can decipher what lies behind creativity, it is certain that we will offer great benefits by incorporating research findings into teaching and the education of future generations (Gobet et al., 2011: 242).

According to a general definition by Torrance, creativity is the process of sensing problems, defects, gaps in information, missing elements and inconsistencies, then identifying the difficulty, seeking solutions, making guesses or forming hypotheses on the defects, adjusting

or retesting the hypotheses, and proposing a solution (Sungur, 1992: 20-266).

Everyone can exhibit more or less creative behavior. Inter-individual differences in creative thinking depend on heredity, cultural environment, and education, and the intensity of creative thinking and behavior is based on these factors (Kirişoğlu, 1991; Yıldız, 2010: 16).

Studies on creativity indicate that subjects of creative products, creative personality and creative process have been researched extensively. In recent years, concepts like creativity management and creative environment have been studied as well.

Wallas (1926) mentions four stages or phases in the process of creativity: preparation, incubation, illumination and verification. In the preparation stage, information is collected and organized to form a creative idea and the individual concentrates on the subject. The incubation stage focuses on the problem. Information obtained during the preparation stage saturates the brain in all its aspects and associations. Illumination is the stage where the method used to solve the problem is realized. At this stage, the missing link in the chain is found and added to the chain. Verification is the stage of looking back and reapplying the solution to verify it (Gobet et al., 2011; Çoban, 1999; Yıldız, 2010).

People we think are creative in fact look at the same event or object as us, but they ask different questions about the event, and look from different perspectives. This requires programs to train individuals to examine, analyze and synthesize the problem and arrive at a solution rather than the classic educational system, which teaches and demands exactly what has been taught.

Guilford mentions divergent and convergent thinking on creativity. Divergent thinking is defined as the process used to generate ideas when there is no one response to a problem or question an individual encounters (Guilford, 1950; Runco et al., 2006; Roue, 2014). Divergent thinking expresses that answers given to a question in a community are the most divergent from commonly given answers.

Many tests have been developed to measure creative skills and creative thinking. Most of these tests tend to measure divergent and convergent thinking. The majority of the tests consists of open-ended questions and measures the following criteria (Adams, 2005: 26; Torrance, 1988: 59):

1. Fluency: The number of answers
2. Flexibility: Diversity of idea categories produced in the answers
3. Originality: Extraordinariness and uniqueness of the answers
4. Elaboration: Detailing, completeness and complexity of the answers

The subject of creative environment mostly consists of

studies that support individuals in expressing their creative ideas. This is frequently used in organizational structures and educational work. Brainstorming is a widely used technique for groups to generate creative and new solutions (Osborn, 1957). Group members try to produce a lot of ideas very quickly and forget about their concerns about quality - they simply say everything they think of that is not critical and is based on others' ideas when possible. Brainstorming makes creative thinking easier and the group more creative (Hogg and Vaughan, 2010: 184).

In each individual, creativity emerges as the result of three elements: specialty, creative thinking skills and motivation. Specialty includes everything a person knows and can do in the general area, and it arises from technical, methodical and intellectual knowledge. Creative thinking skills determine how flexible and imaginative people are in their approach to a problem. This skill is somewhat dependent on personality and how a person thinks and works. For instance, feeling free to disagree with others, trying solutions that go outside the established order, inverting problems, being able to combine information from different fields, and persistently trying pave the way for creativity. The source of motivation is important. Inherent passion to solve the problem at hand leads people to much more creative solutions compared to motivation (external awards such as a prize) (Amabile, 2000: 14).

There are certain preconditions for individuals to realize their creativity. Elements that hinder creativity include over-compromise, conformation, self-indulgence, lack of internal freedom, lack of necessary information, insecurity, dependence on a certain authority, excessive perfectionism, and training in a rational-analytical system based on academic right-brain thinking (San, 2004: 20).

Creative thinking skills can be supported. It is known that creative thinking skills develop in flexible and psychologically safe environments that do not limit learners, activate inherent motivation in individuals, do not judge evaluative approaches, and arouse curiosity (Tezci and Gürol, 2003: 54).

Music education

Music education is a different education than in other fields because while studying music, the person does not only learn but also has fun and experiences different emotions. The basic aim in general music education is education through music. In this case, music is used as a tool.

Listeners report a wide range of emotions aroused by music, including feeling happiness-joy, pleasure-enjoyment, sadness-melancholy, nostalgia-longing, love-tenderness, interest-expectancy, and pride-confidence evoked by music (Juslin, 2013; Tan et al., 2018).

The classroom is an emotional place. Students frequently experience various emotions in classroom settings. Emotions can have important effects on students' learning and achievement. Emotions control the students' attention, influence their motivation to learn, modify the choice of learning strategies, and affect their self-regulation of learning (Pekrun, 2014: 6). Music education is a good tool for internalizing, understanding and regulating emotions.

The left brain was commonly associated with logical and analytical thinking, objectivity, order and abstraction; the right was associated with intuitive thinking, improvisation, emotion, humour and creativity (McIntyre et al., 2018: 49). Music education is one of the most important tools for the use of both halves of the brain. Because while music working, our brain deals with both logic and emotions.

In international music education methods such as Orff, Kodaly, Dalcroze, persons or students are taken to the center. Most of these works include improvisation, games and creative activities.

It is generally seen that art education is associated with creative thinking. However, it is also emphasized that artistic creativity is a different dimension. It seems possible that art training can affect our productivity. Art education can support creative thinking skills as it utilizes creative skills.

Problem

The main objective of this study is to propose a novel and original technique for music courses and other courses and determine the effects of the Creative Activities Program Supported with the Aytürk Technique. Based on this general goal, the following hypotheses were tested

Hypotheses

1. No meaningful difference between Pretest Creativity scores of the Experimental and Control Groups.
2. No meaningful difference between Pretest and Posttest Creativity scores of the Control Group.
3. Meaningful difference between Pretest and Posttest Creativity scores of the Experimental Group in favor of Posttest.
4. Meaningful difference between Pretest and Posttest Creativity scores of the Experimental and Control Groups in favor of Posttest.

Significance

Creative thinking skills are among the most emphasized subjects of our time because they allow people or

communities to have a high level of creativity and boost production, leading to technological or economic development in services. Therefore, identification of factors that influence the level of creative thinking is important for education and other social sciences.

The new and original approaches to education and teaching methods and techniques used in the teaching-learning process in recent years have been welcomed by instructors. New methods and techniques are important for increasing productivity and reorganizing education. Therefore, the developing world requires alternative approaches and enrichment in education. In the novel Aytürk Technique, identification of factors that influence the level of creative thinking is important for education and other social sciences.

METHODS

The experimental study employs a pretest-posttest experimental model with a control group.

The study group

Study groups consist of two of the fourth-year classes of Şehit Öğretmen Hasan Akan Primary School, located in Ataşehir, Istanbul, randomly selected as study groups in the spring semester of the 2017-2018 academic year. Grades of the study groups were determined by the observation that fourth-year students can independently and adequately fulfill their responsibilities and respond to data collection tools. The randomly selected two classes were assigned as an experimental group and a control group.

Among the 33 students in Control and Experimental Groups, 18 were assigned to the Experimental Group and 15 were assigned to the Control Group (Table 1).

Data collection tools

A form of the "How Creative Are You?" creativity scale developed by Raudsepp (1983) adapted to Turkish by Çoban (1999), titled "Ne Kadar Yaratıcısınız?" was used as the study's data collection tool. Cronbach Alfa reliability coefficient of the scale was estimated as 0.95. The scale, which evaluates individual behavior, values, interests, motivations, personal attributes, and other variables, includes 50 expressions. Answers in the five-point likert scale are "I strongly agree" (2), "I agree" (1), "Undecided" (0), "I disagree" (-1) and "I strongly disagree" (-2) (Çoban, 1999: 190).

Data collection

While the control group continued with their ordinary music lessons and school education, the experimental group students practiced a Creative Activities Program Enriched with the Aytürk Technique in addition to the music lessons they attended at the school.

Activities of the experimental group were intended to have more participants and a more creative and interactive education environment and allow students to imagine and create more and express themselves. Activities in the program were designed to expand students' perspective of their own worlds.

Activity principles such as discovering the students' interest,

Table 1. Frequency distribution of students in study groups.

Group	f	%
Experimental Group	18	51.51
Control Group	15	48.48
Total	33	100.00

Table 2. Descriptive Values of Creativity Test Scores of Students in the in Experimental and Control Groups.

Creativity Test	N	Pretest		Posttest	
		\bar{x}	SD	\bar{x}	SD
Experimental Group	18	23.22	14.93	29.78	10.79
Control Group	15	19.87	17.57	15.73	17.45
Total	33	21.70	16.01	23.40	15.67

arousing their curiosity, making the information more interesting, employing information technologies, using images and puzzles, explaining the usability of the subject, and introducing different perspectives were used in order to enhance the in-class learning process.

The teacher monitored teaching programs during implementation, occasionally reminding students the games given to them to continue at home. Some of the students' families volunteered to play fun rhythm games with their children.

The activities were performed in an experimental class of 18 students in 40 minutes for 10 weeks. The program, titled "Enriched Creative Activities," was supported with a new technique developed by the researcher. Body percussion was used with sources of timbre such as pens and erasers as materials to explain the technique during the activities.

The first six activities employed the book titled "Oynayalım Eğlenelim," which was prepared to share the products of the technique and edited by the researcher according to the ideas of students of Istanbul Science and Art Center, and the book's website, oynayalimeglenelim.org. In addition to vocalization of the tables in the book, subjects like What Is Rhythm and How Is It Measured?, Does Rhythm Have Length, Weight, Width?, What is Pulse? Measuring Our Pulse Rate with a Metronome, Animating Our Rhythmic Table, Rhyming, What Is Brainstorming?, What Is Creativity?, What Is Imagination?, Is Our Imagination Limited?, Factors That Kill Creativity, How Do We Find Creative Ideas?, Relationship Between Creativity and Mind Mapping Technique, and Relationship Between Creativity and the Aytürk Technique were studied. The following four activities consisted of subjects of Creating Our Own Brand, Learning about Professions of the Next Century, and Living with Robots. Renzulli (2017)'s Creativity Program was also utilized during the "Creating Our Own Brand" activity.

The students were asked to consider the concepts within the "Enriched Creative Activities Program" in the Mind Mapping Technique and schematically visualize the words in their minds. They were also asked to combine words or symbols selected among the words and symbols in the mind map in a fun way in rhymes or sentences. A Rhythmic Table of 16 cells in total, with four cells in each column and row, was distributed to the students. The students were asked to design the table, already familiar from the first four activities, and place the rhymes according to the length of daily words, or symbols associated with the words in the mind map. So, the table, which can become a rhythmic game, was turned into

rhythmic or melodic structures in symbols or words. The table was designed to teach the students that sounds have mathematical durations. Later, products created by students were presented to the class, with a musical product emerging at the end of every activity. Students created the concepts, movements and music used in the workshop themselves based on their own preferences. The products were also videotaped. All of the resultant products were presented to other students in classrooms, at the schoolyard or the conference hall.

Activities created in the Aytürk Technique have been included in the "1st Material and Activity Competition Catalogue" prepared by the Department of Special Talent Development of the Directorate General of Special Education and Guidance of the Ministry of National Education. An activity in the Aytürk Technique, titled "The Letter Song," participated in the Special Education Material and Activity contest "Competing Ideas, Overcoming Obstacles," and came in third in Turkey in the activity category. The technique was disclosed as part of the "E-Twinning" project, and 76 schools exemplified for its implementation included the technique in their curriculum as project partners.

Data analysis

The data were analyzed in the SPSS (Statistical Package for The Social Sciences) 20.0 package program. As nonparametric difference tests, Mann-Whitney U and Wilcoxon Signed Ranks were used to evaluate any difference between the Creative Thinking Skills scores of students as groups included fewer than 30 individuals.

FINDINGS

In the Creativity Test scores of students in the Control and Experimental groups, the lowest mean score was in the Control Group posttest with 15.33, and the highest mean score was in the Experimental Group posttest with 29.78. Nonparametric difference tests were used in difference analyses as control groups consisted of fewer than 30 individuals (Table 2).

No meaningful difference was found between the

Table 3. Results of the Mann Whitney U test of the creativity pretest scores of students in the experimental and control groups.

Group	n	Mean Rank	Rank Sum	u	z	p
Experimental	18	18.06	325.00	116.00	0.69	--
Control	15	15.73	236.00			

Table 4. Results of the Wilcoxon Signed Ranks Between the Creativity Pretest-Posttest Scores of Students in the in Control Group.

Pretest-Posttest	n	Mean rank	Rank sum	z	p
Negative Ranks	9	8.94	80.50	1.76	--
Positive Ranks	5	4.90	24.50		
Equal	1				
Total:	15				

Table 5. Results of the Wilcoxon signed ranks between the creativity pretest-posttest scores of students in the in experimental group.

Pretest-Posttest	n	Mean rank	Rank sum	z	p
Negative Ranks	2	2.50	5.00	3.26	0.001
Positive Ranks	14	9.36	131.00		
Equal	2				
Total:	18				

Table 6. Results of the Mann Whitney U test of the creativity posttest scores of students in the in experimental and control groups.

Group	n	Mean rank	Rank sum	u	z	p
Experimental	18	21.06	379.00	62.00	2.65	p<0.01
Control	15	12.13	182.00			

Creativity pretest scores of students in the Experimental and Control Groups ($z=0.69$, $p>0.05$) (Table 3).

No meaningful difference was found between results of the Wilcoxon Signed Ranks Test of the Creativity Pretest-Posttest scores of students in the Control Group ($z=1.76$, $p>0.05$) (Table 4).

A meaningful difference in favor of posttest was found between results of the Wilcoxon Signed Ranks Test of the Creativity Pretest-Posttest scores of students in the Experimental Group ($z=3.26$, $p>0.01$) (Table 5).

A meaningful difference in favor of the Experimental group was found between the Creativity posttest scores of students in the Experimental and Control Groups ($z=2.55$, $p>0.05$) (Table 6).

Meaningful differences between pretest and posttest scores of the experimental group and between the posttest scores of the experimental and control groups indicate that the experiment resulted in success.

DISCUSSION

The study validated the hypotheses designed to determine the effects of creative activities enriched with musical activities on the creative thinking skills of students:

1. No meaningful difference was found between the Pretest Creativity scores of Experimental and Control groups.
2. No meaningful difference was found between the Pretest and Posttest Creativity scores of the Control group.
3. A meaningful difference in favor of Posttest was found between the Pretest and Posttest Creativity scores of Experimental group.
4. A meaningful difference in favor of the Experimental group was found between the Posttest Creativity scores

of Experimental and Control groups.

These results indicate that the experiment ended in success, and the Creative Activities Program Enriched with the Aytürk Technique can have positive effect on the creativity of students.

The Aytürk Technique leads students to find new solutions, create new designs and reflect on problems from a different perspective. In this aspect, it is believed that the technique develops creative thinking skills.

Bağcı (2003), in his study with the Torrance Test of Creative Thinking, found no meaningful relationship between Creative Thinking Skills and Musical Talent. Aral (1999) in his study in conservatory students found that the mean score of adolescents training in arts in the scale of creativity was meaningfully higher than the scores of adolescents who are not trained in arts. Ulaş et al. (2014), in their study in fourth year-students of primary school level using the Raudsepp Creativity test found that creative drama activities had a positive effect on the creativity levels of students. It can be concluded that the creative activity program supported with musical activities can promote creativity.

Ritter and Ferguson (2017) investigated influence of music listening on creative thinking. Creativity scores was higher for participants who listened to happy music (that is, classical music high on arousal and positive mood) while performing the divergent creativity task, than for participants who performed the task in silence. Research of Woodward and Sikes (2015) revealed that Thinking Creatively with Sounds and Words test scores of musicians that plays a musical instrument is higher than non-musicians. The results of these examinations indicate that musicians score significantly higher on general creativity assessments than non-musicians when the tests involve the use of sound stimuli to elicit original responses. However, when the general creativity assessments involve only the use of words and imagery, there are no significant differences between the 2 groups.

Torrance (1963) carried out a large number of studies in children of various age groups (3-18 years of age) on the development of creative potential in children. In his studies using the Torrance Test of Creative Thinking scale, he presented the development of creativity in children on a developmental curve that generally rises with age but falls at certain ages (Yontar, 1992: 23). Torrance (1963) lists certain factors that affect creativity as different upbringing of girls and boys, early and unwarranted prevention of fantasies, restriction and control of curiosity, fear and timidity as a result of authority and friend relationships, overemphasis on obstacles and success, lack of necessary resources to study functional ideas, and level of education (Yontar, 1992: 27).

Bayındır and İnan (2008) in their study found that teachers do not use activities that develop the creativity of students in classes, Music and Art are the most

frequently used courses to develop creativity, and the most significant factor in the development of creativity in children is knowledge the teacher has on developing creativity.

Research of Kincal et al. (2016) reveals that activities about creative problem solving, scamper, creative drama, vision development, six-hat thinking techniques and innovative thinking develop creative thinking skills and increase academic achievement. Results of the research of Malycha and Maier (2017) showed a significant positive influence of mind-maps on creative problem-solving. Mind-map templates led to the high levels of fluency and originality in more complex tasks. The results of research of George (2016) reveal that there is a significant influence of brain storming on total creativity scores, verbal creativity, verbal elaboration and verbal originality scores. In the research of Taylor and Rogers (2001), the qualitative data analysis revealed that such a relationship may exist between playfulness and creativity.

Proposals

It is believed that the Creative Activities Program Enriched with the Aytürk Technique, which has an apparent positive effect on Creative Thinking Skills, could make genuine contributions in the teaching-learning process. The original technique can be used to teach rhythm, the basic element of music, in music courses, especially in preschools and elementary schools, and reinforce information on the course in other disciplines.

The Creative Activities Program Enriched with the Aytürk Technique is proposed for education programs to enable positive change in the creative thinking tendencies and habits of students, which could boost our social production volume in services and industries.

Education system, the fundamental method of teaching creativity at schools, involves teachers. Teachers that will teach students about creative thinking clearly play an important role in the development of creative thinking skills of students. It is proposed to introduce creativity and incorporate it in creative education programs in order to develop the creative thinking skills of teachers.

It is thought that development of analytical thinking alone does not develop creativity. Music and art training should have a significant place in education programs. It is proposed to increase the activities and number of courses in arts at schools.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Appendix: Lesson plan sample

A. Introduction

1. Drawing Attention: The teacher comes to the class with a metronome and asks what it is and what it does. After hearing students' answers, he introduces the metronome and asks whether it has similarities with a clock. The class discusses at what metronome speed do a clock's tick-tock and a metronome's tick-tock overlap. The teacher asks the students about what rhythm is, what associations can be established between daily life and rhythm, and what rhythm is associated with, and he asks students to think about and discuss whether rhythm exists in dance, social life, nature, plants and animals, even politics. After the students give their answers, he asks whether students have observations about what kind of rhythm may exist in our bodies. He carries out an activity on how we feel our pulse on our arm or neck.

2. Motivation: The teacher motivates students by telling them the lesson will teach them that time is measurable and how these measures are determined, and they will be able to measure the rhythm of their own heart and those of their family members.

3. Recalling Prior Knowledge: The teacher tells the class they must have told rhymes before and that each rhyme includes a rhythm, and asks the students for examples.

4. Exposition of Target Outcome: The teacher tells students that they will learn how creativity can exist in daily life and in various areas, starting from their own lives, asks them what the subject could be and lets them find it.

B. Development

The sample Rhythmic Table below from the book titled "Oynayalım Eğlenelim" is distributed to students.

















			
			
			
			

Figure 1. Sample Rhythmic Table.

The shapes in the table above consist of two characters. The game is played in two groups based on the number of characters. Before starting the game, players listen to tick-tocks of the wall clock. They repeat two different sounds of

the same length while keeping the rhythm. The players are asked to assign two different sounds of equal length to the two shapes.

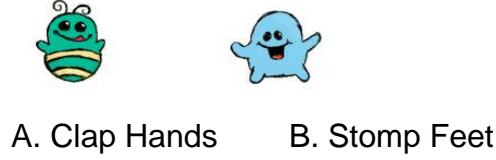


Figure 2. Explanation of the shapes in the rhythmic table.

The students are told that funny sounds, like clapping hands, snapping fingers or letting out unusual sounds from their mouths or noses, would make the game more entertaining. The two teams follow the table from top to bottom and from left to right and give it sounds. As the games in the book gradually get more difficult, they should be followed in order. Students decide what kind of sounds they can make. Repeated attempts are made by using different sounds and changing the starting point in the table. The Rhythmic Table can be given sound with simple sources of timbre or body percussion. If it is going to be vocalized, sounds should be divided into equal lengths like the sample count and positioned in the table. The students are asked to take care of their articulation and diction.

Fırıl	fırıl	fırıl	dak
Kur	bağa	cırt	lak
Hani	bana	ışıl	dak
Gel	bize	vak	vak

Figure 3. Sample rhythmic table.

The teacher asks students whether they can find the hidden rule in the table and whether they liked the game. They are explained that the source book was designed by their peer and they could also have extraordinary, different or original ideas on the subjects they want. It is clarified that each item we see around us were based on a creative idea. The teacher introduces the subject of creativity by telling the students that they will need creative ideas while giving sound to their Rhythmic Tables as well as preparing their own table in the next stage. Then, the teacher explains that they must establish relationships between objects, situations and events. The students are asked to concentrate on the subject of rhythm and creativity and brainstorm on how creativity could be used in other courses. If misunderstandings go uncorrected by classmates, the teacher corrects them by giving clues. Students with different ideas on the sounds assigned to the table share their ideas, which are implemented if the class approves.

C. Conclusion

1. Summary: We saw how important rhythm and creativity is in the universe, the world, daily life and our own lives.
2. Preparation for the Next Class
 - a. The students are asked to measure how many times their heart beats in a minute at home.
 - b. The students are asked to do creative rhythm work by filling an empty Rhythmic Table on the subject of "our feelings and us" and present the outcome as they wish (in pictures, video, etc.).
3. Closing

At the end of the event, students are explained that they learned about the common traits of rhythm and dance, rhythm and social life, rhythm and nature, rhythm and animals, and rhythm and politics, and how these traits exist in their lives, moving on to the assessment.
4. Assessment:

The teacher discusses the traditional Turkish motifs in rugs and the motifs they generate in their unique rhythm, and leads the students to a discussion on how this rhythm could be expressed.